

AUG 19 2009

Substitute for Form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Complete if Known		
				Application Number	Not Yet Assigned	
				Filing Date	Herewith	
				First Named Inventor	Daniel E. Grupp	
				Art Unit	Not Yet Assigned	
				Examiner Name	Not Yet Assigned	
Sheet	1	of	2	Attorney Docket Number	003771.P001D	
U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Document Number		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)				
		US-	4,631,352	12/23/1986	Daud et al	
		US-	4,675,711	6/23/1987	Harder et al	
		US-	4,751,563	6/14/1988	Labowitz et al	
		US-	4,837,804	6/6/1989	Faris	
		US-	4,935,804	6/19/1990	Ito et al	
		US-	5,019,530	5/28/1991	Kleinsasser et al.	
		US-	5,258,625	11/2/1993	Kamohara et al.	
		US-	5,291,274	3/1/1994	Tamura	
		US-	5,401,980	3/28/1995	Fang et al.	
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FOREIGN PATENT DOCUMENTS							
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		Country Code ⁴	Number ⁵ Kind Code ⁶ (if known)				

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Sheet	2	003771 P001D	2	Attorney Docket Number	003771 P001D

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T ²
		P. Hadley, "Single-Electron Tunneling Devices", <u>TMR Programme Certosa di Pontignano (SI)</u> , 7/20, September 1997, 1-15	
		Haroon Ahmed, Kazuo Nakazato, "Single-Electron Devices", <u>Microelectronic Engineering 32</u> , (1996), pp 297-315	
		John Randall et al., "Potential Nanoelectronic Integrated Circuit Technologies", <u>Microelectronic Engineering 32</u> , (1996) pp 15-30	
		Bogdan, Majkusiak, "Experimental and Theoretical Study of the Current-Voltage Characteristics of the MISIM Tunnel Transistor", IEEE Transactions on Electron Devices vol 45 No. 9 (Sep. 1998) pp. 1903-1911	
		C A Mead, "Operation of Tunnel-Emission Devices", Journal of Applied Physics, Vo 32, No 4 (Apr. 1959)	

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		US- 5,475,341	12/12/1995	Reed	
		US- 5,589,692	12/31/1996	Reed	
		US- 5,604,154	2/18/1997	Takahashi et al.	
		US- 5,612,233	3/18/1997	Roesner et al.	
		US- 5,646,420	7/8/1997	Yamashita	
		US- 5,646,559	7/8/1997	Higurashi	
		US- 5,665,979	9/9/1997	Takahashi et al.	
		US- 5,677,637	10/14/1997	Nakazato et al.	
		US- 5,705,827	1/6/1998	Baba et al.	
		US- 5,710,051	1/20/1998	Park et al.	

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		Y. Takahashi et al., "Fabrication Technique for Si Single-Electron Transistor Operating at Room Temperature", IEEE Electronics Letters Online No. 19950063 vol. 31 No. 2, (Jan. 19, 1995) pp. 136-137			
		Kazuo Nakazato and Haroon Ahmed, "Enhancement of Coulomb blockade in Semiconductor Tunnel Junctions", Appl. Phys. Lett., (Mar. 21, 1995) pp. 3170-3172			
		R. H. Davis and H.H. Hosack, "Double Barrier in Thin-Film Triodes", Journal of Applied Physics, vol. 34, No. 4 (Part 1), (4/63) pp. 864-866			
		Kiyonori Kato, "Liquid helium Level Meter by Audio-Sound Detection", Rev. Sci. Instrum (60/7), (7/89) pp. 1343-1345			
		E. Tosatti and R. Martonak, "Rotational Melting in Displacive Quantum Paraelectrics", Solid State Communications, vol. 92, Nos. 1-2 (1984) pp. 167-180			
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		US- 5,731,598	3/24/1998	Kado et al.	
		US- 5,754,077	5/19/1998	Onata et al.	
		US- 5,834,793	11/10/1998	Shibata	
		US- 3,116,427	12/13/1963	Gkaever	
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		Hiroyuki Sakaki, "Quantum Microstructure Devices", <u>Solid State Communication</u> , vol 92, Nos. 1-2, (1994) pp 119-127			
		M A Reed et al, "Realization of a Three-Terminal Resonant Tunneling Device The Bipolar Quantum Resonant Tunneling Transistor" <u>App Phys Lett</u> (11) (Mar. 12, 1989) pp. 1034-1036			
		R J Schoelkopf et al, "The RF-SET. A Fast and Ultra-Sensitive Electrometer", Submitted to Science, (12/11/97) pp. 1-6			
		Federico Capaso et al, "Multiple Negative Transconductors and Differential Conductance in a Bipolar Transistor by Sequential Quenching of Resonant Tunneling" <u>App Phys Lett</u> 53 (12) (19 Sep 1988) pp 1056-1058			
		J.L. Huber et al., "An RTD/Transistor Switching Block and its Possible Application in Binary and Ternary Adders", <u>IEEE Transaction of Electron Devices</u> , vol 44 No 12 (12/97) pp 2149-2153			
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		Robert F. Service, "Microelectronics" "IBM Puts Fast Chips on a New Footing", <u>Science</u> , vol. 281, (Aug. 14, 1998) pp. 893-894			
		David Berman et al, "Single-Electron Transistor Research", <u>http://nanowed.mit.edu/annual-report/14</u> , (downloaded 10/7/98), pp. 1-4			
		Mikko Paalanen, "Nanophysics-A New Frontier of Science", <u>http://www.edita.fi/lehdet/polysteekki/297/nanop.html</u> , (downloaded 10/7/98) pp 1-5			
		Steven P. Beaumont, "III-V Nanoelectronics", <u>Elsevier Science B.V., Microelectronic Engineering 32</u> , (1996) pp. 283-295			
		P.K. Vasudev and P M Seitzoff, "Si-ULSI with a Scaled-Down Future", <u>IEEE Circuits & Devices</u> , (1998), pp. 19-29			
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				First Named Inventor:	Daniel E. Grupp
				Art Unit	Not Yet Assigned
				Examiner Name	Not Yet Assigned
Sheet	2	003771.P001D	2	Attorney Docket Number	003771.P001D
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Examiner Initials*	Cite No ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published			T ²
		S J Wind et al., "Scaling Silicon MOS Device to Their Limits", <u>Elsevier Microelectronic Engineering</u> 32, (1996) pp. 271-282			
		Naoki Yokoyama et al., "A New Functional Resonant-Tunneling Hot Electron Transistor (RHET)", <u>Japanese Journal of Applied Physics</u> , vol. 24 No. 11 (11/85) pp. 1 853-1 854			
		Victor Ryzhii et al., "Resonant-Tunneling Bipolar Transistors with a Quantum-Well Base", <u>Japanese Journal Applied Physics</u> , vol. 35 No. 10 (10/96) pp. 5280-5283			
		Serge Luryi and Federico Capasso, "Resonant Tunneling of Two-Dimensional Electrons Through a Quantum Wire: A Negative Transconductors Device" <u>Appl Phys Lett</u> 47 (12) (Dec. 15, 1985) pp. 1347-1349			
		J R Schreffer, "Symmetry of the Order Parameter in High Temperature Superconductors", <u>Solid State Communications</u> , vol. 92, Nos. 1-2 (1994) pp. 129-139			
Examiner Signature				Date Considered	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Application Number	Not Yet Assigned	
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				Examiner Name	Not Yet Assigned	
Sheet	1	of	2	Attorney Docket Number	003771.P001D	
U.S. PATENT DOCUMENTS						
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		Country Code ³	Number-Kind Code ² (if known)				

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		Federico Capasso and Richard A. Kiehl, "Resonant Tunneling Transistor with Quantum Well Base and High-Energy Injection: A New Negative Differential Resistance Device" J Appl Phys 58 (3) (Aug. 1, 1985) pp. 1366-1367			
		A C. Seabaugh et al., "Resonant Transmission in the Base/Collector Junction of a Bipolar Quantum-Well Resonant-Tunneling Transistor" App Phys Lett 59 (26) (23 Dec 1991) pp 3413-3415			
		Ming C. Wu et al., "Quantum-Switched Heterojunction Bistable Bipolar Transistor by Chemical Beam Epitaxy", Appl. Phys. Lett. 57 (2) (Jul. 9, 1990) pp. 150-152			
		Alan C. Seabaugh et al., "Pseudomorphic Bipolar Quantum Resonant-Tunneling Transistor", IEEE Transactions on Electron Devices, vol. 36, No. 10 (10/89) pp. 2327-2334			
		D. Ali and H. Ahmed, "Coulomb Blockade in a Silicon Tunnel Junction Device", Appl. Phys. Lett. 64 (16), (18 Apr 1994), pp. 2119-2120			

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